WHAT IS CLAIMED IS:

1. A process for the continuous production of inorganic gas, comprising the steps of:

(a) providing a reactor with a reaction zone;
(b) feeding at least two feed gases concentrically to the reaction zone;
(c) reacting the at least two feed gases in the reaction zone, thereby forming a product gas;
(d) providing at least one solids collection system; and
(e) flowing the product gas to the at least one solids collection system,

wherein at least one of said at least two feed gases is heated prior to being fed to the reaction zone.

2. The process of claim 1, wherein said reactor further comprises at least two reactor feed tubes for concentrically feeding the at least two feed gases to the reaction zone.

3. The process of claim 1, wherein at least one of said at least two feed gases is heated to a temperature greater than 350°C.

4. The process of claim 1, wherein said reactor is constructed from a material selected from the group consisting of hastelloy C, stainless steel, brass, borosilicate glass, silicate, sodium silicate, potassium silicate silica, and any combinations thereof.

5. The process of claim 1, wherein said at least two feed gases are selected from the group consisting of acetylene, ammonia, boron trichloride, boron trifluoride, butadiene, butane, butene, carbon dioxide, carbon monoxide, chlorine, cis-2-butene, deuterium, dimethylamine, dimethyl ether, ethane, ethylene, ethyl chloride, hydrogen, hydrogen bromide, hydrogen chloride, hydrogen sulfide, isobutane, isobutylene, methane, methyl bromide, methyl chloride, methyl mercaptan, methylamine, nitric oxide, nitrogen dioxide, nitrous oxide, oxygen, perfluoropropane, propane, propylene, sulfur dioxide, sulfur hexafluoride, trans-2-butene, trimethylamine, and any combinations thereof.

6. The process of claim 1, further comprising feeding at least one inert gas concurrently with at least one of said at least two feed gases.

7. The process of claim 6, wherein said at least one inert gas is selected from the group consisting of nitrogen, argon, helium, neon, and any combinations thereof.

8. The process of claim 1, wherein said at least one solids collection system is selected from the group consisting of trap, filter, cyclone, and any combinations thereof.

9. The process of claim 8, wherein said filter is selected from the group consisting of cartridge, bag, granular bed, and any combinations thereof.

10. An apparatus for the continuous production of gaseous compounds, the apparatus comprising:

(a) at least one reactor with at least two reactor feed tubes for concentrically feeding feed gas to the reaction zone; and

(b) at least one solids collection system.

11. The apparatus of claim 10, wherein said at least one reactor includes a reaction zone.

12. The process of claim 10, wherein said at least one reactor is constructed from a material selected from the group consisting of hastelloy C, stainless steel, brass, borosilicate glass, silicate, sodium silicate, potassium silicate silica, and any combinations thereof.

13. The apparatus of claim 10, wherein said at least one solids collection system is selected from the group consisting of trap, filter, cyclone, and any combinations thereof.

14. The process of claim 13, wherein said filter is selected from the group consisting of cartridge, bag, granular bed, and any combinations thereof.

15. A process for the continuous production of chloramine gas comprising the steps of:

(a) providing a reactor having a reaction zone, and having a first feed gas tube and a second feed

gas tube that concentrically feed gas to the reaction zone;

(b) feeding a chlorine-containing gas to the first feed gas tube;

(c) feeding ammonia to the second feed gas tube;

(d) reacting the chlorine-containing gas with the ammonia in the reaction zone, thereby forming chloramine gas;

(e) providing at least one solids collection system; and

(f) flowing the chloramine gas to the at least one solids collection system,

wherein said chlorine-containing gas, said ammonia, or both said chlorine-containing gas and said ammonia are heated prior to step (d).

16. The process of claim 15, wherein said chlorine-containing gas, said ammonia, or both are heated to a temperature greater than 350°C.

17. The process of claim 15, wherein said chlorine-containing gas is fed to the reaction zone at a flow rate about 0.001 ft^3/min to about 0.1 ft^3/min.

18. The process of claim 15, wherein said ammonia is fed to the reaction zone at a flow rate about 0.002 ft^3/min to about 0.2 ft^3/min.

19. The process of claim 15, further comprising feeding inert gas to said reaction zone cocurrently with said chlorine-containing gas.

20. The process of claim 20, wherein said inert gas is selected from the group consisting of nitrogen, argon, helium, neon, and any combinations thereof.

21. The process of claim 20, wherein said inert gas is fed at a flow rate about 0.1 ft^3/min to about 1 ft^3/min.

22. The process of claim 15, wherein the reactor is constructed from a material selected from the group consisting of hastelloy C, stainless steel, brass, borosilicate glass, silicate, sodium silicate, potassium silicate silica, and any combinations thereof.

23. The process of claim 15, wherein said at least one solids collection system is selected from the group consisting of trap, filter, cyclone, and any combinations thereof.

24. The process of claim 23, wherein said filter is selected from the group consisting of cartridge, bag, granular bed, and any combinations thereof.